

IN THE CLAIMS:

Please cancel claims 1-3, amend claims 4 -11, and add claims 12-23 as follows:

1-3 (Canceled)

4. (Currently Amended) ~~The apparatus according to claim 1, further~~ An apparatus for recording a signal on an optical disc by irradiating an optical beam according to a strategy which is stepwise updated by a given step amount, the apparatus comprising:

a detector that successively detects a linear velocity of the optical disc relative to the optical beam in realtime basis;

a strategy generator that operates every time the detector detects the linear velocity of the optical disc for successively generating the strategy according to the detected linear velocity;

a storage having a plurality of storage areas, each being capable of memorizing the strategy successively generated by the strategy generator;

a write controller that rewrites one of the storage areas every time the strategy is generated until the strategy is updated by a given step amount and then rewrites another of the storage areas every time the strategy is generated while leaving said one storage area to hold the updated strategy, thereby updating the strategy through the plurality of the storage areas;

a read selector that selects the storage area holding the updated strategy to read therefrom the updated strategy while allowing the write controller to rewrite another storage area;

a pulse generator that generates a pulse waveform shaped according to the updated strategy fed from the read selector;

a recorder for irradiating the optical beam in response to the generated pulse waveform to record the signal on the optical disc; and

a temperature detector that detects a temperature around the recorder, wherein the strategy generator generates [[a]] multiple [[of]] strategies according to the detected linear

velocity for different zones of the temperature, the write controller holds the multiple of the updated strategies for the different zones of the temperature in the plurality of the storage areas, and the read selector selects one storage area according to the detected temperature to read therefrom the updated strategy for a particular zone of the temperature including the detected temperature.

5. (Currently Amended) ~~The apparatus according to claim 1, further~~ An apparatus for recording a signal on an optical disc by irradiating an optical beam according to a strategy which is stepwise updated by a given step amount, the apparatus comprising:

a detector that successively detects a linear velocity of the optical disc relative to the optical beam in realtime basis;

a strategy generator that operates every time the detector detects the linear velocity of the optical disc for successively generating the strategy according to the detected linear velocity;

a storage having a plurality of storage areas, each being capable of memorizing the strategy successively generated by the strategy generator;

a write controller that rewrites one of the storage areas every time the strategy is generated until the strategy is updated by a given step amount and then rewrites another of the storage areas every time the strategy is generated while leaving said one storage area to hold the updated strategy, thereby updating the strategy through the plurality of the storage areas;

a read selector that selects the storage area holding the updated strategy to read therefrom the updated strategy while allowing the write controller to rewrite another storage area;

a pulse generator that generates a pulse waveform shaped according to the updated strategy fed from the read selector;

a recorder for irradiating the optical beam in response to the generated pulse waveform to

record the signal on the optical disc; and

a defect detector that detects a defect of the optical disc from the optical beam reflected back from the optical disc, wherein the strategy generator generates ~~a pair of~~ a regular strategy applicable when no defect exists on the optical disc and a substitute strategy applicable if a defect exists on the optical disc, the write controller holds the updated regular strategy and the updated substitute strategy separately from each other in the storage areas, and the read selector reads the updated substitute strategy when the defect is detected on the optical disc.

6. (Currently Amended) The apparatus according to claim ~~[[1]]~~ 4, wherein the pulse generator generates the pulse waveform containing ~~[[a top]]~~ an initial pulse and subsequent pulses, and the strategy generator generates the strategy according to the detected linear velocity such that the strategy contains parameters for specifying a width of the ~~[[top]]~~ initial pulse, a width of each subsequent pulse and an interval of the subsequent pulses.

7. (Currently Amended) ~~The apparatus according to claim 6, further~~ An apparatus for recording a signal on an optical disc by irradiating an optical beam according to a strategy which is stepwise updated by a given step amount, the apparatus comprising:

a detector that successively detects a linear velocity of the optical disc relative to the optical beam in realtime basis;

a strategy generator that operates every time the detector detects the linear velocity of the optical disc for successively generating the strategy according to the detected linear velocity;

a storage having a plurality of storage areas, each being capable of memorizing the strategy successively generated by the strategy generator;

a write controller that rewrites one of the storage areas every time the strategy is generated until the strategy is updated by a given step amount and then rewrites another of the

storage areas every time the strategy is generated while leaving said one storage area to hold the updated strategy, thereby updating the strategy through the plurality of the storage areas;

a read selector that selects the storage area holding the updated strategy to read therefrom the updated strategy while allowing the write controller to rewrite another storage area;

a pulse generator that generates a pulse waveform shaped according to the updated strategy fed from the read selector, the pulse waveform having an initial pulse and subsequent pulse;

a recorder for irradiating the optical beam in response to the generated pulse waveform to record the signal on the optical disc; and

a function storage that memorizes a first function for determining an optimal value of the width of the [[top]] initial pulse in relation to the detected linear velocity, a second function for determining an optimal value-of the width of each subsequent pulse in relation to the detected linear velocity, and a third function for determining an optimal value of the interval of the subsequent pulses, and wherein

the strategy generator generates the strategy according to the detected linear velocity such that the strategy contains parameters for specifying a width of the initial pulse, a width of each subsequent pulse and an interval of the subsequent pulses, the strategy being generated in terms of the optimal values of the width of the [[top]] initial pulse, the width of each subsequent pulse and the interval of the subsequent pulses by inputting the detected linear velocity into the first function, second function and third function. [[.]]

8. (Currently Amended) ~~The apparatus according to claim 7, further~~ An apparatus for recording a signal on an optical disc by irradiating an optical beam according to a strategy which is stepwise updated by a given step amount, the apparatus comprising:

a detector that successively detects a linear velocity of the optical disc relative to the optical beam in realtime basis;

a strategy generator that operates every time the detector detects the linear velocity of the optical disc for successively generating the strategy according to the detected linear velocity;

a storage having a plurality of storage areas, each being capable of memorizing the strategy successively generated by the strategy generator;

a write controller that rewrites one of the storage areas every time the strategy is generated until the strategy is updated by a given step amount and then rewrites another of the storage areas every time the strategy is generated while leaving said one storage area to hold the updated strategy, thereby updating the through the plurality of the storage areas;

a read selector that selects the storage area holding the updated strategy to read therefrom the updated strategy while allowing the write controller to rewrite another storage area;

a pulse generator that generates a pulse waveform shaped according to the updated strategy fed from the read selector, the pulse waveform having an initial pulse and subsequent pulses;

a recorder for irradiating the optical beam in response to the generated pulse waveform to record the signal on the optical disc;

a function storage that memorizes a first function for determining an optimal value of the width of the initial pulse in relation to the detected linear velocity, a second function for determining an optimal value-of the width of each subsequent pulse in relation to the detected linear velocity, and a third function for determining an optimal value of the interval of the subsequent pulses; and

a disc detector that detects a type of an optical disc for recording the signal, wherein

the function storage memorizes a plurality of first functions in correspondence to plural types of optical discs, a plurality of second functions in correspondence to plural types of optical discs and a plurality of third functions in correspondence to plural types of optical discs, and

the strategy generator generates the strategy according to the detected linear velocity such that the strategy contains parameters for specifying a width of the initial pulse, a width of each subsequent pulse and an interval of the subsequent pulses, the strategy being generated in terms of the optimal values of the width of the initial pulse, the width of each subsequent pulse and the interval of the subsequent pulses by inputting the detected linear velocity into the first function, second function and third function and the strategy generator using [[uses]] a set of the first function, second function and third function corresponding to the detected type of the optical disc for generating the strategy matching the detected type of the optical disc.

9. (Currently Amended) The apparatus according to claim [[1]] 4, further comprising a motor for rotating the optical disc at a constant angular velocity such that the linear velocity varies relative to the optical beam as the optical beam moves radially of the optical disc, wherein the strategy generator successively generates the strategy every time the varying linear velocity is detected.

10. (Currently Amended) A method of recording a signal on an optical disc by irradiating an optical beam according to a strategy which is stepwise updated by a given step amount, the method comprising ~~the steps of:~~

successively detecting a linear velocity of the optical disc relative to the optical beam in realtime basis;

successively generating the strategy according to the detected linear velocity every time the linear velocity of the optical disc is detected;

providing a plurality of storage areas, each being capable of memorizing the strategy successively generated;

rewriting one of the storage areas every time the strategy is generated until the strategy is updated by a given step amount and then rewriting another of the storage areas every time the strategy is generated while leaving said one storage area to hold the updated strategy, thereby updating the strategy through the plurality of the storage areas;

detecting a defect of the optical disc using the optical beam reflected back from the optical disc;

selecting the storage area holding the updated strategy to read therefrom the updated strategy while allowing the rewriting of another storage area;

generating a pulse waveform shaped according to the updated strategy held in the selected storage area; and

irradiating the optical beam in response to the generated pulse waveform to record the signal on the optical disc, wherein

a regular strategy is generated when no defect exists on the optical disc and a substitute strategy is generated when a defect exists on the optical disc, an updated regular strategy and an updated substitute strategy are held separately from each other in the storage areas, and the storage area holding the updated substitute strategy is selected when the defect is detected on the optical disc.

11. (Currently Amended) A computer program for use in a disc apparatus having a processor for recording a signal on an optical disc by irradiating an optical beam according to a strategy

which is stepwise updated by a given step amount, the computer program being executable by the processor for enabling the disc apparatus to perform a process comprising ~~the steps of~~:

successively detecting a linear velocity of the optical disc relative to the optical beam in realtime basis;

successively generating the strategy according to the detected linear velocity every time the linear velocity of the optical disc is detected;

providing a plurality of storage areas, each being capable of memorizing the strategy successively generated;

rewriting one of the storage areas every time the strategy is generated until the strategy is updated by a given step amount and then rewriting another of the storage areas every time the strategy is generated while leaving said one storage area to hold the updated strategy, thereby updating the strategy through the plurality of the storage areas;

detecting a defect of the optical disc using the optical beam reflected back from the optical disc;

selecting the storage area holding the updated strategy to read therefrom the updated strategy while allowing the rewriting of another storage area;

generating a pulse waveform shaped according to the updated strategy held in the selected storage area; and

irradiating the optical beam in response to the generated pulse waveform to record the signal on the optical disc, wherein

a regular strategy is generated when no defect exists on the optical disc and a substitute strategy is generated when a defect exists on the optical disc, an updated regular strategy and an updated substitute strategy are held separately from each other in the storage areas, and the



storage area holding the updated substitute strategy is selected when the defect is detected on the optical disc.

12. (New) The apparatus according to claim 5, wherein the pulse generator generates the pulse waveform containing an initial pulse and subsequent pulses, and the strategy generator generates the strategy according to the detected linear velocity such that the strategy contains parameters for specifying a width of the initial pulse, a width of each subsequent pulse and an interval of the subsequent pulses.

13. (New) The apparatus according to claim 4, further comprising a function storage that memorizes a function for determining an optimal value of either a pulse width or a pulse frequency of the pulse waveform in relation to the linear velocity, wherein the strategy generator generates the strategy in terms of the optimal value of the pulse waveform by inputting the detected linear velocity into the function.

14. (New) The apparatus according to claim 13, further comprising a disc detector that detects a type of an optical disc for recording of the signal, wherein the function storage memorizes a plurality of functions in correspondence to a plurality of types of the optical disc, and the strategy generator uses the function corresponding to the detected type of the optical disc for generating the strategy in matching with the detected type of the optical disc.

15. (New) The apparatus according to claim 5, further comprising a motor for rotating the optical disc at a constant angular velocity such that the linear velocity varies relative to the optical beam as the optical beam moves radially of the optical disc, wherein the strategy generator successively generates the strategy every time the varying linear velocity is detected.

16. (New) The apparatus according to claim 5, further comprising a function storage that memorizes a function for determining an optimal value of either a pulse width or a pulse

frequency of the pulse waveform in relation to the linear velocity, wherein the strategy generator generates the strategy in terms of the optimal value of the pulse waveform by inputting the detected linear velocity into the function.

17. (New) The apparatus according to claim 15, further comprising a disc detector that detects a type of an optical disc for recording of the signal, wherein the function storage memorizes a plurality of functions in correspondence to a plurality of types of the optical disc, and the strategy generator uses the function corresponding to the detected type of the optical disc for generating the strategy in matching with the detected type of the optical disc.

18. (New) The apparatus according to claim 7, further comprising a motor for rotating the optical disc at a constant angular velocity such that the linear velocity varies relative to the optical beam as the optical beam moves radially of the optical disc, wherein the strategy generator successively generates the strategy every time the varying linear velocity is detected.

19. (New) The method according to claim 10, wherein the pulse waveform contains an initial pulse and subsequent pulses, and the strategy is generated according to the detected linear velocity such that the strategy contains parameters for specifying a width of the initial pulse, a width of each subsequent pulse and an interval of the subsequent pulses.

20. (New) The method according to claim 10, further comprising memorizing a function for determining an optimal value of either a pulse width or a pulse frequency of the pulse waveform in relation to the linear velocity, wherein the strategy is generated in terms of the optimal value of the pulse waveform by inputting the detected linear velocity into the function.

21. (New) The method according to claim 20, further comprising detecting a type of an optical disc for recording of the signal, wherein a plurality of functions are memorized in correspondence to a plurality of types of the optical disc, and the strategy is generated using

function corresponding to the detected type of the optical disc.

22. (New) The method according to claim 10, further comprising rotating the optical disc at a constant angular velocity such that the linear velocity varies relative to the optical beam as the optical beam moves radially of the optical disc, wherein the strategy is successively generated every time the varying linear velocity is detected.

23. (New) The computer program according to claim 11, wherein the pulse waveform contains an initial pulse and subsequent pulses, and the strategy is generated according to the detected linear velocity such that the strategy contains parameters for specifying a width of the initial pulse, a width of each subsequent pulse and an interval of the subsequent pulses.

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